Amendments to the Drawings

The attached sheets of drawings include changes to Figs. 1, 4 and 5 as detailed in the Remarks section below. Replacement sheets for Figs. 1-5 replacing prior filed Figs. 1-5 are attached.

Attachment: Replacement Sheets

REMARKS

Claims 1-20 are pending in the application. Applicants respectfully request entry of the foregoing amendments to the specification prior to further examination. No new matter has been introduced. Acceptance is respectfully requested.

Objection to the Drawings

The drawings have been objected to because the drawings were replete with errors. Applicants thank the Examiner for pointing out these errors. Replacement drawing sheets have been provided. No new matter is introduced. Acceptance of the Replacement Drawings is respectfully requested.

Fig. 1 has been amended to be consistent with the specification at page 6, lines 9-26. In particular, the blocks labeled "70 Domain Model", "60 Conversational Record", "84 Rules Base (E.G., Database)", and "86 Goal-Directed Rules" have been deleted from Fig. 1 as originally filed. These blocks have been replaced with a block labeled "74 Speak Queue" connected by a line to block 12. New block 74 includes three blocks labeled "76-1 Response", "76-2 Response", and "76-3 Response". These amendments are supported at least by the specification at page 6, lines 22-24 as originally filed. The text "Spoken Utterance" within block 14 as originally filed has been replaced with the text "Spoken Input". This Amendment is supported at least by the specification at page 6, lines 17-18 as originally filed.

Blocks 21 and 52 have been replaced with blocks 56 (labeled "Dialog Manager") and 72 (labeled "Turn Manager"), respectively. These new blocks are included within a new block 70 labeled "Dialog Management System" which, in turn, is included within the conversation manager 28. These amendments are supported at least by the specification at page 6, line 21 as originally filed.

Block 16 of Fig. 1 as originally filed has been amended to replace the label "Output (E.g., Application Command)" with "Audio Output (E.g., Response)". This amendment is supported at least by the specification at page 6, lines 24-26 as originally filed.

No changes have been made to Figs. 2 and 3.

The blocks of Fig. 4 as originally filed have been replaced with blocks 56, 58, 72, 74, 78, 88, and 90, respectively labeled "Dialog Manager", "Context Manager", "Turn Manager", "Speak Queue", "Context Priority Queue", "Dialog State", and "Activity Queue". These amendments are supported at least by the specification at page 15, lines 4-6, page 15, line 13 to page 16, line 4, page 18, lines 4-5, and page 19, lines 27-28 as originally filed.

Block 74 includes three blocks labeled "76-1 Response", "76-2 Response", and "76-3 Response". This amendment is supported at least by the specification at page 6, lines 22-24 as originally filed.

Block 78 of Fig. 4 as now amended includes six blocks labeled "84-1 Question Context", "84-2 Question Context", "84-3 Question Context", "86-1 Dialog Context", "86-2 Dialog Context", and "86-3 Dialog Context". These amendments are supported at least by the specification at page 14, lines 17-21 as originally filed. Block 90 of Fig. 4 as now amended includes three blocks labeled "92-1 Activity Object", "92-2 Activity Object", and "92-3 Activity Object". These amendments are supported at least by the specification at page 14, lines 17-21 as originally filed.

Reference numeral 52 of Fig. 4 as originally filed has been replaced with reference numeral 70 which points to the combination of blocks in Fig. 4 as now amended. This amendment is supported at least by the specification at page 14, lines 14-22 as originally filed.

The flow diagram steps of Fig. 5 as originally filed have been replaced with flow diagram steps consistent with the specification as originally filed and summarized below.

Reference numeral 100, pointing to the flow diagram steps of Fig. 5 as now amended, has been added to be consistent with at least the specification at page 20, lines 7-8 as originally filed.

The text of step 102 of Fig. 5 as originally filed has been replaced with the following text: "RECEIVE SPOKEN INPUT FROM A USER OF A COMPUTER SYSTEM THROUGH AN AUDIO INPUT INTERFACE." This amendment is supported at least by the specification at page 20, lines 8-10 as originally filed.

Decision step 104 of Fig. 5 as originally filed has been replaced with step 104 having the following text: "GENERATE ONE OR MORE RESPONSES BASED ON THE SPOKEN INPUT OR ON OTHER SOURCES (E.G., ANNOUNCEMENT OF A COMPLETED

ACTIVITY)." This amendment is supported at least by the specification at page 20, lines 13-16 as originally filed.

Decision step 106 of Fig. 5 as originally filed has been replaced with step 106 having the following text: "RECEIVE THE GENERATED RESPONSES AT THE DIALOG MANAGER." This amendment is supported at least by the specification at page 20, lines 26-27 as originally filed.

The text of step 108 of Fig. 5 as originally filed has been replaced with the following text: "PLACE THE GENERATED RESPONSES IN A SPEAK QUEUE." This amendment is supported at least by the specification at page 21, lines 4-5 as originally filed.

The text of step 110 of Fig. 5 as originally filed has been replaced with the following text: "MANAGE THE AUDIBLE RENDERING OF THE RESPONSES FROM THE QUEUE THROUGH THE AUDIO OUTPUT DEVICE SO THAT THE USER RECEIVES EACH RESPONSE AS PART OF A DIALOG BETWEEN THE COMPUTER AND THE USER CONDUCTED IN POLITE MANNER SUBJECT TO THE CONTROL OF THE USER." This amendment is supported at least by the specification at page 21, lines 8-15 as originally filed. The connector connecting Step 110 to Step 102 of Fig. 5 as originally filed has been deleted.

Step 112 of Fig. 5 as originally filed has been replaced with decision step 112 having the following text: "MORE INPUT PROVIDED BY USER?" A "YES" response to decision step 112 returns the process to step 102. Thus, a connector connecting decision step 112 to step 102 has been added. These amendments are supported at least by the specification at page 21, line 28 to page 22, line 3 as originally filed.

Step 114 having the text "END DIALOG" has been added as a step that follows from a "NO" response to decision block 112 of Fig. 5 as now amended. This amendment is supported at least by the specification at page 22, line 4-6 as originally filed.

Acceptance of the Replacement drawings of Figs. 1-5 is respectfully requested.

Objection to the Specification

The disclosure has been objected to because references in the specification were not included in the drawings and references in the drawings were not included in the specification.

The amendments to the drawings set forth above correct these errors. No new matter is introduced by way of these amendments.

35 U.S.C. 103(a) Rejection

Claims 1-20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over a Claassen (U.S. Patent No. 6,647,363), in view of Monaco et al. (U.S. Patent No. 6,314,402) ("Monaco"), and further in view of Surace et al (U.S. Patent No. 6,334,103) ("Surace").

Claassen provides a system for automatically responding to a user inquiry. The system includes a dialog manager and a presentation manager. The dialog manager 50 receives the output from a speech recognition subsystem 40 (Fig. 1). The dialog manager 50 scans the output from the speech recognition subsystem 40 to extract key words or phrases indicating which information the user wishes to obtain. The dialog manager 50 then searches storage 52 (e.g., a database) for the key words or phrases. The presentation manager 90 receives the dialog manager's 50 search results and determines the users intentions motivating or associated with the search results (or extracted information). Based on its determination, the presentation manager 90 selects the presentation scenario, such as a template sentence or phrase, to present the extracted information. A speech generator 60 then verbally presents the extracted information to the user.

Monaco provides a method and apparatus for creating speech objects for use in an interactive voice response environment. Each speech object acquires a particular type of information from a speaker during an interaction between the speaker and a speech recognition mechanism. A speech object includes properties, such as prompts and grammars, associated with the corresponding type of interaction. Speech objects interact with the speaker through a speech channel 43 interface which is an object that provides access to the implementation of other interfaces providing speech recognition functionality (e.g., the main speech channel interface providing recognition and audio functions) (see Fig. 3). The speech channel interface provides methods for access to speech recognition functionality including recognition requests, prompt playback, and recording of the incoming audio. The speech channel prompt mechanism maintains a queue of prompts, added one at a time, and plays them back sequentially when a

playback method is called. In this way, a prompt can be easily constructed from multiple pieces. The queue is emptied after the prompts are played.

Surace provides a voice user interface with personality. Prompts are selected from among various prompts based on various criteria (e.g., prompt history). Polite prompts may be selected such that the voice user interface behaves consistently with social and emotional norms. Lengthened or shorten prompts may be selected based on a users experience with the voice user interface. In particular, Surace provides politeness rules based on Grice's maxims for politeness.

Unlike the above cited references, Applicants provide a speak queue 74 that maintains a prioritized list of responses 76 (e.g., 76-1, 76-2, 76-3) (Fig. 4 and specification, page 14, lines 25-26). Monaco provides a mechanism for maintaining a queue of prompts or responses, however, the prompts are "added one at a time" in the queue of prompts and then the queue of prompts are played back sequentially when a playback method is called (col. 10, lines 32-37). In the present invention, a turn manager 72, on the other hand, gives priority to different responses in the speak queue 74 based on predefined priority rules (specification, page 18, lines 18-27). The turn manager 72 may also give priority to those answers associated with contexts that are higher on the context priority queue 78 (specification, page 18, lines 28-29).

Base Claims 1 and 19 have been amended to make clear that the speak queue 74 is a prioritized queue of responses. As a result, Claassen, Monaco, and Surace alone or in any combination do not teach, suggest or otherwise make obvious each and every limitation of independent Claims 1 and 19 ("a prioritized queue for retaining responses ... placing the generated responses in the prioritized queue... managing audible rendering of the responses from the prioritized queue through the audio output device"). Therefore, Applicants respectfully request that the rejection of independent Claims 1 and 19 be withdrawn.

Independent Claim 7 has been amended to include similar limitations to Claims 1 and 19 ("placing the generated responses in a prioritized queue . . . managing audible rendering of the responses from the prioritized queue through the audio output device"). Therefore, Applicants respectfully request that the rejection of independent Claim 7 be withdrawn.

Independent Claims 13 and 20 have been amended to include similar limitations to Claims 1 and 19 ("place the generated responses in a prioritized queue . . . manage audible rendering of the responses from the prioritized queue through the audio output device").

Therefore, Applicants respectfully request that the rejection of independent Claims 13 and 20 be withdrawn.

Since Claims 2-6, 8-12, and 14-18 depend from now amended independent Claims 1, 7, and 13, respectively, Applicants respectfully request that the rejection of these dependent claims be withdrawn for at least the same reasons.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims (Claims 1-20) are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By Mary Lou Wakimura

Mary Lou Wakimura
Registration No. 31,804
Telephone: (978) 341-0036
Facsimile: (978) 341-0136

Concord, MA 01742-9133
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